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=> s phytopathogenic

L1 6285 PHYTOPATHOGENIC

=> s exopolysaccharide

L2 3909 EXOPOLYSACCHARIDE

=> s l1 and l2

L3 38 L1 AND L2

=> s l3 and inactivat?

L4 1 L3 AND INACTIVAT?

=> d l4 bib ab

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2000:911435 CAPLUS

DN 134:68699

TI Avirulent Xanthomonas campestris mutants for xanthan production

IN Pierrard, Jerome; Simon, Jean-Luc; Chevallereau, Paule

PA Rhodia Chimie, Fr.

SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA French

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000078967	A1	20001228	WO 2000-FR1725	20000621
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
FR 2795423	A1	20001229	FR 1999-7963	19990622
FR 2795423	B1	20030425		
BR 2000011889	A	20020305	BR 2000-11889	20000621

EP 1190062 A1 20020327 EP 2000-951637 20000621
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO
 JP 2003503025 T2 20030128 JP 2001-505709 20000621
 PRAI FR 1999-7963 A 19990622
 WO 2000-FR1725 W 20000621
 AB The invention concerns a bacterial strain which has lost its
 phytopathogenic character by ***inactivation*** of at least
 one virulence gene and preserved its capacity for producing
 exopolysaccharide . Thus, genes hrpA1-hrpC2 of X. campestris were
 deleted by homologous recombination. The resulting mutant was not
 phytopathogenic and produced normal levels of xanthan.
 RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 23:01:23 ON 04 AUG 2004)

FILE 'BIOSIS, CAPLUS' ENTERED AT 23:01:40 ON 04 AUG 2004

L1 6285 S PHYTOPATHOGENIC
 L2 3909 S EXOPOLYSACCHARIDE
 L3 38 S L1 AND L2
 L4 1 S L3 AND INACTIVAT?

=> s pathogen? and inactivat? and (hrp or hrc)
 L5 17 PATHOGEN? AND INACTIVAT? AND (HRP OR HRC)

=> s 15 not 14
 L6 17 L5 NOT L4

=> s 16 and xanthomonas
 L7 2 L6 AND XANTHOMONAS

=> d 17 bib ab 1-2

L7 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 AN 2004:47466 BIOSIS
 DN PREV200400040123
 TI Characterization of the ***hrp*** ***pathogenicity*** cluster of
 Erwinia carotovora subsp. carotovora: High basal level expression in a
 mutant is associated with reduced virulence.
 AU Lehtimäki, S.; Rantakari, A.; Routtu, J.; Tuikkala, A.; Li, J.;
 Virtaharju, O.; Palva, E. T.; Romantschuk, M.; Saarilahti, H. T. [Reprint
 Author]
 CS Division of Genetics, Department of Biosciences, University of Helsinki,
 FIN-00014, P.O.B. 56, Helsinki, Finland
 hannu.saarilahti@helsinki.fi
 SO MGG Molecular Genetics and Genomics, (November 2003) Vol. 270, No. 3, pp.
 263-272. print.
 ISSN: 1617-4615 (ISSN print).
 DT Article
 LA English
 ED Entered STN: 14 Jan 2004
 Last Updated on STN: 14 Jan 2004
 AB Extracellularly targeted proteins are crucial for virulence of

gram-negative phytopathogenic bacteria. *Erwinia carotovora* subsp. *carotovora* employs the so-called type II (GSP) pathway to secrete a number of pectinases and cellulases, which cause the typical tissue maceration symptoms of soft-rot disease. The type III (*****hrp*****) pathway is the major virulence determinant in the genera *Pseudomonas*, *Ralstonia* and *****Xanthomonas***** , and in non-macerating species of *Erwinia*. The *****hrp***** cluster was recently partially characterized from *E. carotovora* sp. *carotovora*, and shown to affect virulence during early stages of infection. Here we have isolated and characterized 15 *****hrp***** genes comprising the remaining part of the cluster. The

genes

hrpL, *hrpXY* and *hrpS* were deduced to be transcribed as separate units, whereas the 11 remaining genes from *hrpJ* to *hrcU* form a single large operon. The *hrpX* gene, which codes for the sensory kinase of the two-component regulatory locus *hrpXY* was insertionally *****inactivated***** by placing a transposon (entranceposon) in the gene. The resulting mutant bacterium expresses the *****hrp***** genes at high basal level even in a non-inducing medium. This relative overexpression was shown to be due to the *hrpX::entranceposon* insertion causing enhanced transcription of the downstream *hrpY* gene. The *hrpX--hrpYC* mutant bacterium exhibited a slower growth rate and the appearance of disease symptoms in infected *Arabidopsis* plants was delayed, as compared to the wild-type strain. The need for *****hrp***** gene expression for virulence has been documented in both non-macerating plant *****pathogens***** and in soft-rotting *Erwinia* sp. but this is the first demonstration that high basal-level expression of *****hrp***** -regulated genes may actually have a negative impact on

disease

progress in a susceptible host plant.

L7 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:924229 CAPLUS

DN 140:211691

TI Characterization of the *****hrp***** *****pathogenicity***** cluster of *Erwinia carotovora* subsp. *carotovora*: high basal level expression in a mutant is associated with reduced virulence

AU Lehtimaeki, S.; Rantakari, A.; Routtu, J.; Tuikkala, A.; Li, J.; Virtaharju, O.; Palva, E. T.; Romantschuk, M.; Saarilahti, H. T.

CS Department of Biosciences, Division of Genetics, University of Helsinki, Helsinki, FIN-00014, Finland

SO Molecular Genetics and Genomics (2003), 270(3), 263-272
CODEN: MGGOAA; ISSN: 1617-4615

PB Springer-Verlag

DT Journal

LA English

AB Extracellularly targeted proteins are crucial for virulence of gram-neg. phytopathogenic bacteria. *Erwinia carotovora* subsp. *carotovora* employs the so-called type II (GSP) pathway to secrete a no. of pectinases and cellulases, which cause the typical tissue maceration symptoms of soft-rot disease. The type III (*****hrp*****) pathway is the major virulence determinant in the genera *Pseudomonas*, *Ralstonia* and *****Xanthomonas***** , and in non-macerating species of *Erwinia*. The *****hrp***** cluster was recently partially characterized from *E. carotovora* sp. *carotovora*, and shown to affect virulence during early stages of infection. Here the authors have isolated and characterized 15 *****hrp***** genes comprising the remaining part of the cluster. The genes *hrpL*, *hrpXY* and *hrpS* were deduced to be transcribed as sep. units, whereas the 11 remaining genes from *hrpJ* to *hrcU* form a single large operon. The *hrpX* gene, which codes

for the sensory kinase of the two-component regulatory locus hrpXY was insertionally ***inactivated*** by placing a transposon (entranceposon) in the gene. The resulting mutant bacterium expresses the ***hrp*** genes at high basal level even in a non-inducing medium.

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relative overexpression was shown to be due to the hrpX::entranceposon insertion causing enhanced transcription of the downstream hrpY gene. The hrpX--hrpYC mutant bacterium exhibited a slower growth rate and the appearance of disease symptoms in infected Arabidopsis plants was delayed, as compared to the wild-type strain. The need for ***hrp*** gene expression for virulence has been documented in both non-macerating plant ***pathogens*** and in soft-rotting Erwinia sp. but this is the first demonstration that high basal-level expression of ***hrp*** -regulated genes may actually have a neg. impact on disease progress in a susceptible host plant.

RE.CNT 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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	ENTRY	SESSION
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